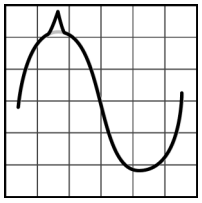
Protecting Your Computers and Electronics Against the Severe Weather of Storm Season

Although power problems occur throughout the year, the severe weather of the storm season presents the greatest danger to computers and electronics. Severe weather increases the incidence of power problems that threaten your equipment, your data, your productivity and your financial health. Preparing for the storm season doesn't need to be expensive or complicated: a wide range of affordable solutions provide your equipment with safe, reliable power, whether you need to protect your home or business. Additional solutions power your equipment on the road and during emergencies.

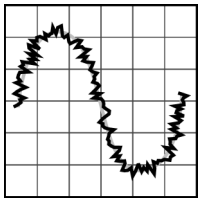
Power Problems During Storm Season

Power problems cost U.S. consumers up to $188 billion per year*, and the June-through-November storm season is the most destructive time of the year. Severe weather events such as thunderstorms, tornados, hurricanes, floods, high winds, wildfires and extreme heat make the storm season especially dangerous for unprotected computers and electronics by increasing the incidence of hazards that damage equipment, destroy data and diminish productivity:



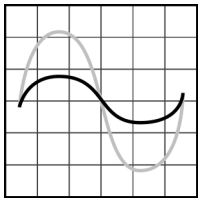
Surge / Spike

Surges and spikes are short-term voltage increases. They cause catastrophic equipment damage, data corruption and incremental damage that degrades equipment performance. During the storm season, the incidence of surges and spikes rises with heightened thunderstorm activity, lightning strikes and sudden power restoration after outages.



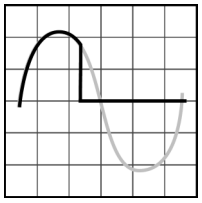
Line Noise

Line noise encompasses electromagnetic interference, radio frequency interference, harmonic distortion and waveform irregularities in line power. It causes incremental electronic circuit damage, data corruption and audio/video quality problems. During the storm season, line noise increases with utility power fluctuations and increased usage of air conditioning, refrigeration motors and fans that introduce interference in local electrical circuits. Thunderstorm activity also contributes to line noise.



Brownout

A brownout is a voltage deficiency that occurs when power demand exceeds power availability. Brownouts cause equipment failures, incremental damage, decreased stability and data loss. During the storm season, brownouts become more frequent as heat waves increase air conditioner usage and electricity demands, forcing utilities to lower line voltage. Repeated site brownouts also occur as air conditioners and refrigerators start and stop, overloading building electrical circuits.



Blackout

A blackout is a complete loss of utility power. Blackouts cause reduced productivity, lost revenue, system crashes and data loss. During the storm season, blackouts increase in frequency and duration as high winds, lightning strikes, wildfires and floods disrupt or destroy utility lines and other power distribution equipment. As heat waves drive increased air conditioner usage, utility companies are forced to institute rolling blackouts. Unplanned outages also occur as the aging electrical grid and building circuits are overwhelmed by demand.

** Source: Electric Power Research Institute*

Severe Weather Power Protection Solutions

Tripp Lite provides affordable solutions that protect your equipment, your data and your productivity against the hazards of the storm season. Solutions are available for any size application, from home to enterprise business, and offer five levels of protection, ranging from **Category 1** (protection against several common hazards) to **Category 5** (the most complete protection available against all hazards).

Category 1—Surge Suppressors

Tripp Lite's economical Protect It!™ surge suppressors provide heavy-duty surge/spike protection and line noise filtration. Tripp Lite's premium Isobar® surge suppressors include the most robust surge-blocking architecture in the industry, incorporating more and substantially stronger protective components, as well as isolated filter banks that eliminate interference between devices plugged into the same surge suppressor. Select models include data line protection (Tel/Modem, Coaxial or Ethernet).

Category 2—Standby UPS Systems

Tripp Lite's Internet Office® and BC series of standby UPS systems provide surge/spike/noise protection like surge suppressors, and they add battery backup to keep connected equipment operating without interruption during blackouts. They also provide limited brownout protection by switching to battery. Select models include data line protection and communication ports that enable automatic shutdown of connected computers during extended blackouts.

Category 3—Line-Interactive UPS Systems

In addition to the protection features offered by standby UPS systems, Tripp Lite's Digital, OmniSmart™, VS and AVR series of line-interactive UPS systems add Automatic Voltage Regulation (AVR). AVR allows the UPS system to adjust voltage to safe levels during brownouts without switching to battery power, reducing battery wear and preserving charge levels for blackout protection.

Category 4—SmartPro® UPS Systems

Tripp Lite's SmartPro series of line-interactive UPS systems offers advanced AVR for improved brownout protection and enhanced microprocessors for more complex communications with connected computers. Select models include network card slot, expandable battery backup runtime and pure sine wave power from battery, ensuring maximum stability for connected equipment.

Category 5—SmartOnline™ UPS Systems

Tripp Lite's SmartOnline UPS systems offer the best protection available against all power problems. True on-line operation with continuous AC-to-DC-to-AC double power conversion completely isolates sensitive electronics from power problems. Precision-regulated output power with pure sine waveform guarantees maximum stability for connected equipment. All models include network card slot and expandable battery backup runtime.

Mobile and Emergency Power

In addition to surge suppressors and UPS systems, Tripp Lite offers inverters that turn your vehicle into a high quality power generator, at a fraction of the cost of traditional generators. Inverters convert the energy stored in your vehicle's battery to AC power usable by computers, tools, battery chargers and other equipment designed for household current, allowing you to use them on the road, at remote sites and during emergencies and extended blackouts.

How to Choose the Best Solution for Your Needs

First, decide whether you need a surge suppressor, UPS system or both. Most installations will benefit from a mixture of the two, with UPS systems protecting computers, recording devices and other sensitive electronics. The chart below will help you decide which solutions fit your needs, and Tripp Lite's product selector guides located at **www.tripplite.com/selector/** will help you find UPS systems, surge suppressors and inverters with the right number of outlets, sufficient capacity and other features that best fit your needs. Remember that an inverter is a supplement to surge suppressors and UPS systems, not a replacement.

You can use the UPS System Selector to add up your total power requirements and view recommended UPS systems. If your equipment isn't listed, you can find your power requirements by consulting equipment documentation or nameplates. If amps are shown, multiply by voltage (120V in the U.S.) to determine wattage (Volts x Amps = Watts). After you find the total wattage required, return to the UPS System Selector and use the "Configure by Total Load" option.

Summary of Protection Features

	Protection Type				
	Category 1: Surge Suppressor	Category 2: Standby UPS	Category 3: Line-Interactive UPS	Category 4: SmartPro UPS	Category 5: SmartOnline UPS
Surge/Spike	Good	Good	Good	Good	Best
Line Noise	Good	Good	Good	Good	Best
Brownout	None	Limited	Good	Better	Best
Blackout	None	Good	Good	Better	Best
Additional Features					
Expandable Runtime	n/a	No	One Model	Select Models	All Models
Communications	n/a	Basic (Select Models)	Basic	Advanced	Advanced
Voltage Regulation	n/a	No	Yes	Advanced	Advanced
Pure Sine Wave Power	n/a	No	No	Select Models	All Models
On-Line Operation	n/a	No	No	No	Yes
Ideal Applications	Computers, electronics, A/V components and other equipment in home and office.	Basic personal computers and peripherals in home, home office and small business.	PCs, peripherals, workstations, small servers and A/V components in home, home office and small, medium or large business.	Workstations and servers in small, medium or large business.	Mission-critical networking, servers, storage, security and telecommunications equipment in medium, large or enterprise business.

1111 W. 35th Street, Chicago, IL 60609 USA • (773) 869-1234 • www.tripplite.com • info@tripplite.com

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